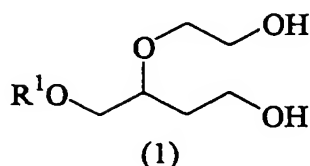
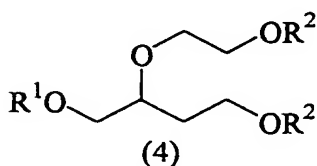


## CLAIMS

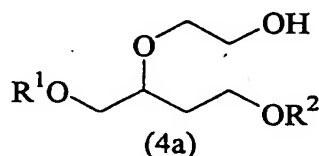
1. A process for preparing a butanetriol derivative of the formula (1)



5 which comprises subjecting a compound of the following formula (4) or (4a) to deprotection reaction

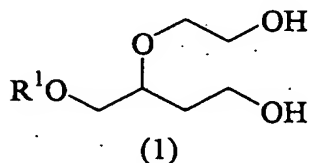


or



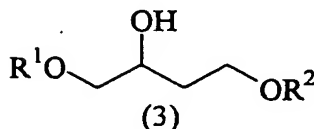
wherein in the above formulae, R¹ and R² are the different each other and are protecting groups for alcohol and said protecting groups such that only R² is removed when the deprotection reaction is carried out.

2. A process for preparing a butanetriol derivative of the formula (1)

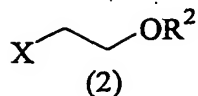


15 wherein R¹ is the same defined above,

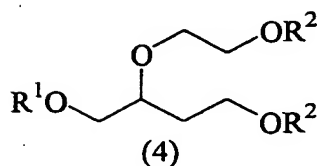
which comprises reacting a compound of the formula (3)



wherein  $R^1$  and  $R^2$  are the same defined above,  
and a compound of the formula (2)

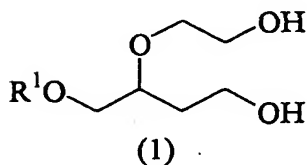


wherein X is halogen atom or sulfonyloxy group, and  $R^2$   
is the same as defined above,  
in a basic condition to prepare a compound of the formula  
(4)

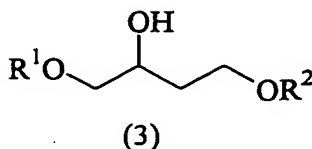


wherein  $R^1$  and  $R^2$  are the same defined above,  
and then subjecting the compound (4) to deprotection  
reaction.

3. A process for preparing a butanetriol derivative of  
the formula (1)

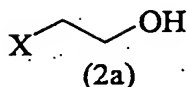


wherein  $R^1$  is the same defined above,  
which comprises reacting a compound of the formula (3)

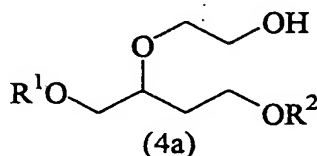


wherein  $R^1$  and  $R^2$  are the same defined above,

and a compound of the following formula (2a)

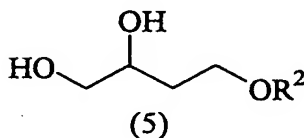


wherein X is halogen atom or sulfonyloxy group,  
or ethylene oxide in a basic condition to prepare a  
5 compound of the formula (4a)



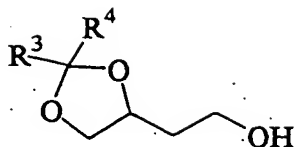
wherein R<sup>1</sup> and R<sup>2</sup> are the same defined above,  
and then subjecting the compound (4a) to deprotection  
reaction.

10 4. A process for preparing a compound (1) which comprises  
protecting primary hydroxy group for a compound of the  
formula (5)



wherein R<sup>2</sup> is the same as defined above,  
15 and then carrying out the process of claim (2) or claim (3).

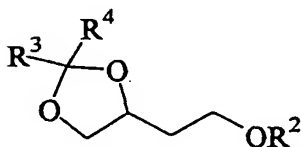
5. A process for preparing a compound (1) which  
comprises protecting a compound of the formula (7)



(7)

wherein R<sup>3</sup> and R<sup>4</sup> are the same or different and are hydrogen, C<sub>1</sub>-C<sub>4</sub> alkyl or phenyl, or may form a C<sub>3</sub>-C<sub>6</sub> cycloalkyl with the adjacent carbon atom,

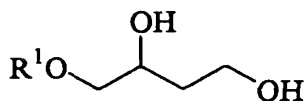
5 with a protecting agent of alcohol to prepare a compound of the formula (6)



(6)

wherein R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are the same as defined above, and then treating the compound (6) with an acid to prepare a compound (5) and then carrying out the process of claim (4).

6. A process for preparing a compound (1) which comprises protecting primary hydroxy group for a compound of the formula (8)

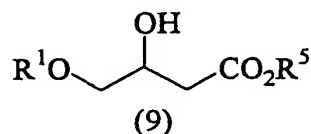


(8)

wherein R<sup>1</sup> is the same as defined above, to prepare a compound (3) and then carrying out the process

of claim (2) or claim (3).

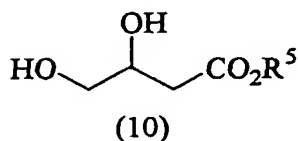
7. A process for preparing a compound (1) which comprises reducing a compound of the formula (9)



5        wherein  $\text{R}^5$  is  $\text{C}_1\text{-C}_6$  alkyl,  $\text{C}_3\text{-C}_6$  cycloalkyl, phenyl,  $\text{C}_1\text{-C}_6$  alkyl substituted phenyl, aralkyl or 2-alkenyl, and  $\text{R}^1$  is the same as defined above,

with an aluminum-reducing agent or a boron-reducing agent, to prepare a compound (8) and then carrying out the process  
10 of claim (6).

8. A process for preparing a compound (1) which comprises protecting primary hydroxy group for a compound of the formula (10)



15        wherein  $\text{R}^1$  is the same as defined above,

to prepare a compound (9) and then carrying out the process of claim (7).

9. The process for preparing a compound (1) according to any of claims 1 to 8, comprising using compound (3) and  
20 compound (4) or (4a), wherein the protecting groups,  $\text{R}^1$  and  $\text{R}^2$  in compounds (3) and (4) or (4a) are different each

other and are protecting groups selected from the group of silyl ether-protecting groups, phenyl substituted methyl-protecting group and acetal-protecting groups, and that only  $R^2$  is removed when the deprotection is carried out.

5 10. The process for preparing a compound (1) according to claim 9, wherein the protecting groups,  $R^1$  and  $R^2$  in compounds (3) and (4) or (4a) are a silyl ether-protecting group and a phenyl substituted methyl-protecting group, respectively.

10 11. The process for preparing a compound (1) according to claim 9, wherein the protective groups,  $R^1$  and  $R^2$  in compounds (3) and (4) or (4a) are a phenyl substituted methyl-protecting group and a silyl ether-protecting group, respectively.

15 12. The process for preparing a compound (1) according to claim 9, wherein the protecting groups,  $R^1$  and  $R^2$  in compounds (3) and (4) or (4a) are a silyl ether-protecting group and an acetal-protecting group, respectively.

20 13. The process for preparing a compound (1) according to claim 9, wherein the protecting groups,  $R^1$  and  $R^2$  in compounds (3) and (4) or (4a) are an acetal-protecting group and a silyl ether-protecting group, respectively.

25 14. The process for preparing a compound (1) according to claim 9, wherein the protecting groups,  $R^1$  and  $R^2$  in compounds (3) and (4) or (4a) are a phenyl substituted

methyl-protecting group and an acetal-protecting group, respectively.

15. The process for preparing a compound (1) according to claim 9, wherein the protecting groups,  $R^1$  and  $R^2$  in compounds (3) and (4) or (4a) are an acetal-protecting group and a phenyl substituted methyl-protecting group, respectively.

16. The process for preparing a compound (1) according to claim 9, wherein the protecting groups,  $R^1$  and  $R^2$  in compounds (3) and (4) or (4a) are trityl and benzyl, respectively.

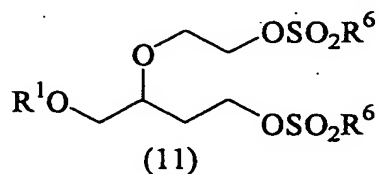
17. The process for preparing a compound (1) according to any of claims 2 to 16, comprising reacting compound (2), (2a) or ethylene oxide with compound (3) in an aprotic solvent.

18. The process for preparing a compound (1) of claim 17, wherein the aprotic solvent is N,N-dimethylformamide or dimethyl sulfoxide.

19. The process for preparing a compound (1) according to any of claims 2 to 18, comprising using an alkali metal hydride, hydroxide or carbonate as a base in reacting compound (2), (2a) or ethylene oxide with compound (3).

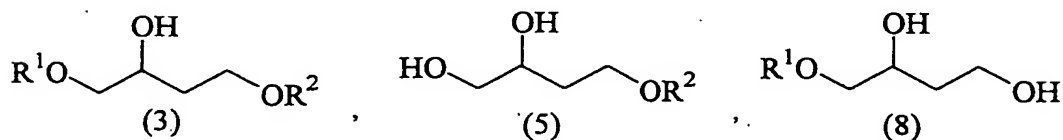
20. The process for preparing an optically active compound (1) according to any of claims 1 to 19, comprising using an optically active starting material.

21. A process for preparing a compound of the following formula (11) or its optically active compound



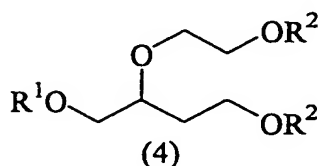
wherein  $R^6$  is  $C_1$ - $C_6$  alkyl,  $C_3$ - $C_6$  cycloalkyl, phenyl,  $C_1$ - $C_6$  alkyl, halogen-substituted phenyl or nitro-substituted phenyl and  $R^1$  is the same as defined above, which comprising preparing a compound (1) by the process of any of claims 1 to 20 and then subjecting the compound to sulfonyl esterification.

22. A compound of the following formula (3), (5) or (8) or its optically active compound



wherein  $R^1$  and  $R^2$  are the same as defined above.

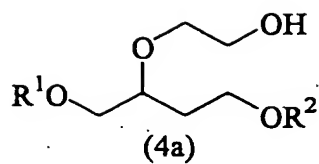
23. A compound of the following formula (4) or its optically active compound



wherein  $R^1$  and  $R^2$  are the same as defined above.

24. A compound of the following formula (4a) or its optically active compound





wherein  $R^1$  and  $R^2$  are the same as defined above.